

# Re: RLC

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- *From:* "Lord Garth" <[LGarth@xxxxxxxxxxxxx](mailto:LGarth@xxxxxxxxxxxxx)>
  - *Date:* Fri, 08 Apr 2005 08:57:54 GMT
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"jason" <[cheanglong@xxxxxxxxx](mailto:cheanglong@xxxxxxxxx)> wrote in message  
[news:1112944014.015990.204210@xx](mailto:news:1112944014.015990.204210@xx)

- > Yes that's right Garth ,.. Thank you
- >
- > Sometimes in some cases, we compare the reactance of a capacitor with
- > resistance of a resistance like the below case
- >
- >  $1/wC \ll R_s$
- >
- > So my question is , what does it mean by this comparison?
- > reactance < resistance
- >
- > What does it tell us?
- >
- > Should not we compare resistance with resistance
- > while comparing reactance with reactance
- > Both of them have the unit ohm?
- >
- > What is the implication of using such a comparison , what does it tell
- > us?
- >
- > Thank you
- >

I was trying to recall the original question.....

You had a series RCL I think that all you are seeing is that the inductive reactance and the capacitive reactance are nearly equal but opposite therefore they cancel. The circuit appears to be very much like a resistance only.

If  $1/wC \ll R_s$  the resultant phasor is very close to  $R_s$  so it seems to not be very significant in a first approximation.

I guess I'm not seeing why  $wL$  couldn't also be  $\ll R_s$  resulting in a phasor in quadrant 1 rather than Q4

In either case, the circuit would be dominated by  $R_s$ , the power factor

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would be close to 1 therefore the current and the voltage would be (pretty much) in phase. The crest factor would be close to minimum. Rs would have to handle near maximum power. It sounds like reasonable matching for maximum power transfer.

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- ***Follow-Ups:***

- ◆ ***Re: RLC***

- ◇ *From:* jason

- ***References:***

- ◆ ***RLC***

- ◇ *From:* jason

- ◆ ***Re: RLC***

- ◇ *From:* Lord Garth

- ◆ ***Re: RLC***

- ◇ *From:* jason

- Prev by Date: ***Re: RLC***

- Next by Date: ***Re: Need explanation of part of schematic***

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